



# SHARP

วิทยุเทปบันทึกเสียงสเตอริโอ

STEREO RADIO CASSETTE RECORDER

รุ่น

MODEL

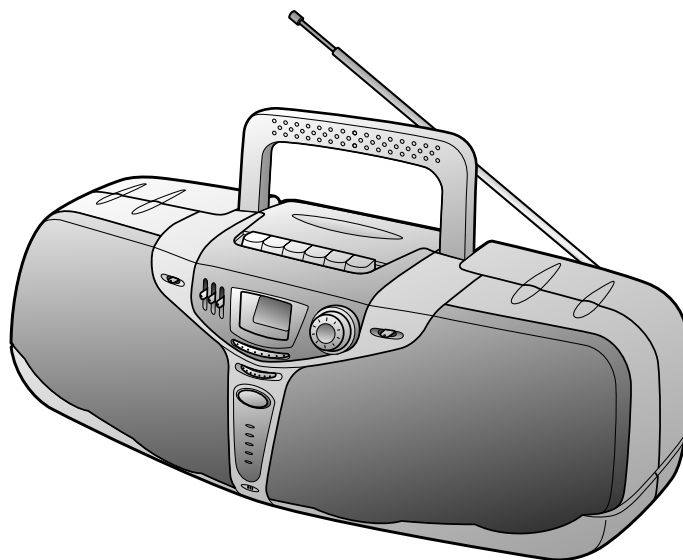
## QT-90W

คู่มือการใช้งาน

OPERATION MANUAL

ขอขอบคุณท่านผู้ซื้ออุปกรณ์ต่อผลิตภัณฑ์ SHARP ทุกท่าน  
เพื่อทำให้สามารถใช้งานผลิตภัณฑ์ได้อย่างมีประสิทธิภาพสูงสุด โปรดอ่านคู่มือการใช้งานอย่างละเอียด  
คู่มือการใช้งานจะชี้แนะการใช้งานผลิตภัณฑ์ SHARP รุ่นนี้

**Thank you for purchasing this SHARP product.  
To obtain the best performance from this product, please read this manual carefully.  
It will guide you in operating your SHARP product.**



ภาษาไทย	.....	กรุณาดูหน้า T-1 ถึง T-9
ENGLISH	.....	Please refer to pages E-1 to E-9.



## ENGLISH

### Special Notes

- The letters in brackets contained in the model number indicate the colour of the product only. Operation and specifications are unaffected.
- Audio-visual material may consist of copyrighted works which must not be recorded without the authority of the owner of the copyright.  
Please refer to the relevant laws in your country.
- When the FUNCTION switch is set at STAND-BY position, mains voltage is still present inside the unit.

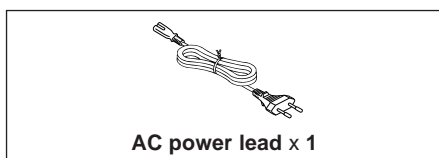
**Warning:**

This unit contains no user serviceable parts. Never remove covers unless qualified to do so. This unit contains dangerous voltages, always remove mains plug from the socket before any service operation and when not in use for a long period.

**Warning:**

To prevent fire or shock hazard, do not expose this appliance to dripping or splashing. No objects filled with liquids, such as vases, shall be placed on the apparatus.

### Accessory

**Notes:**

- The AC power lead is located in the packing material.
- Only the accessory in the drawing is included.

### Precautions

- Do not expose the unit to moisture, to temperatures higher than 60°C (140°F) or to extremely low temperatures.
- Keep the unit away from direct sunlight, strong magnetic fields, excessive dust, humidity and electronic/electrical equipment (home computers, facsimiles, etc.) which generates electrical noise.
- Hold the AC power plug by the head when removing it from the AC socket as pulling the lead can damage internal wires.
- When cleaning the heads, pinch roller, etc., remove the AC power lead from the AC socket as the unit contains high voltages. Do not remove the outer cover, as this may result in electric shock. Refer internal service to your local SHARP service facility.
- Use the unit on a firm, level surface free from vibration, and do not place anything on the top of the unit.
- If the unit does not work properly, set the FUNCTION switch to STAND-BY and then to ON again.

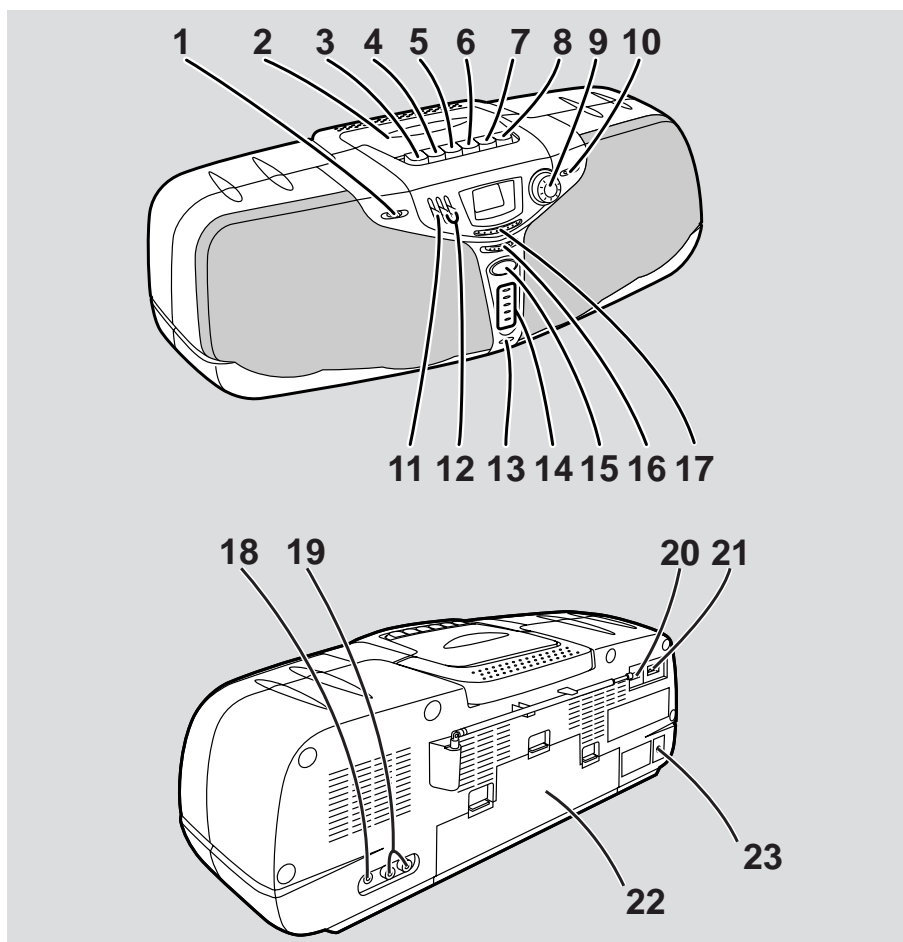
- In case of an electrical storm, unplug the unit for safety.
- This unit should only be used within the range of 5°C - 35°C (41°F - 95°F).
- The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.
- Attention should be drawn to the environmental aspects of battery disposal.

**Warning:**

The voltage used must be the same as that specified on this unit. Using this product with a higher voltage other than which is specified is dangerous and may result in a fire or other type of accident causing damage. SHARP will not be held responsible for any damage resulting from use of this unit with a voltage other than that which is specified.



## Controls and Indicators

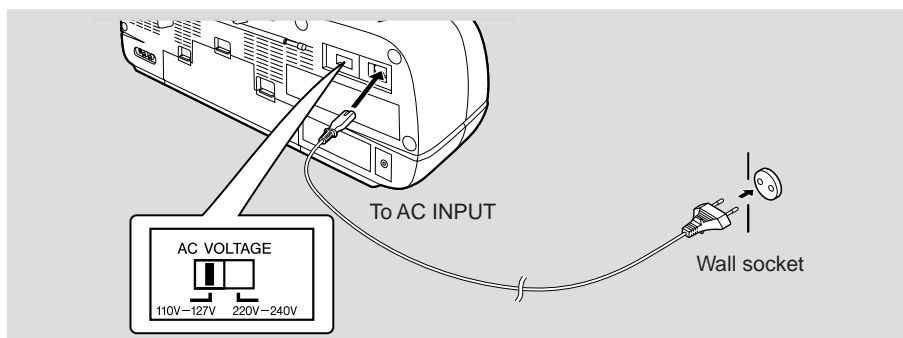


- |                                |                              |
|--------------------------------|------------------------------|
| 1. Function/Beat Cancel Switch | 13. Built-in Microphone      |
| 2. Cassette Compartment        | 14. Sound Level Meter        |
| 3. Record Button               | 15. Surround Button          |
| 4. Play Button                 | 16. Fine Tuning Control      |
| 5. Rewind Button               | 17. Tuning Control           |
| 6. Fast Forward Button         | 18. Mixing Microphone Socket |
| 7. Stop/Eject Button           | 19. Line Input Sockets       |
| 8. Pause Button                | 20. AC Voltage Selector      |
| 9. Volume Control              | 21. AC Input Socket          |
| 10. Band Selector              | 22. Battery Compartment      |
| 11. Extra Bass Control         | 23. Headphone Socket         |
| 12. Graphic Equalizer Controls |                              |





## Operation with AC Power



Check the setting of the AC voltage selector located on the rear panel before plugging the unit into an AC socket. If necessary, adjust the selector to correspond to the AC power voltage used in your area.

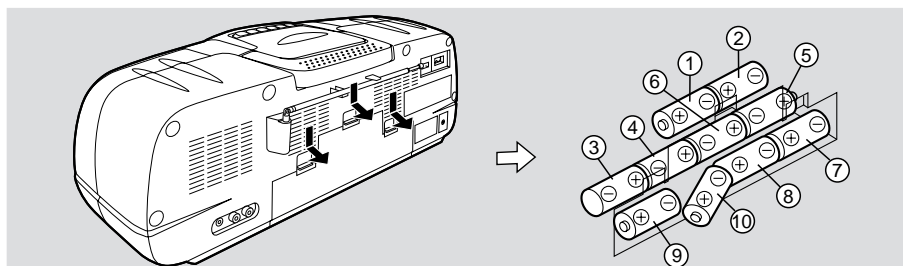
### Selector adjustment:

Slide the selector with a screwdriver to the appropriate voltage number. (AC 110 - 127 V or AC 220 - 240 V)

### Notes:

- If the unit will not be used for a long period of time, remove the AC power lead from the AC socket.
- Connection of the AC power lead to the unit disconnects the batteries.
- Use only the supplied power lead. Using other power leads may cause an electric shock or fire.

## Operation with Batteries



**1** Disconnect the AC power lead, and remove the battery compartment cover.

**2** Insert 10 "D" size batteries (UM/SUM-1, R20, HP-2 or similar) into the battery compartment.

- Insert the batteries according to the direction indicated on the rear panel.
- When inserting or removing the batteries, push them toward the ⊖ battery terminals.
- Installing the batteries incorrectly may cause the unit to malfunction.

**3** Replace the battery compartment cover.

### Battery replacement:

Replace the batteries when they become weak

and/or recording or playback is impaired. This may occur even though radio broadcasts are audible.

### Notes:

- Replace all old batteries with new ones at the same time.
- Do not mix old and new batteries.
- Remove the batteries if they are weak or if the unit will not be used for long periods of time. This will prevent potential damage due to battery leakage.
- Batteries are not included.

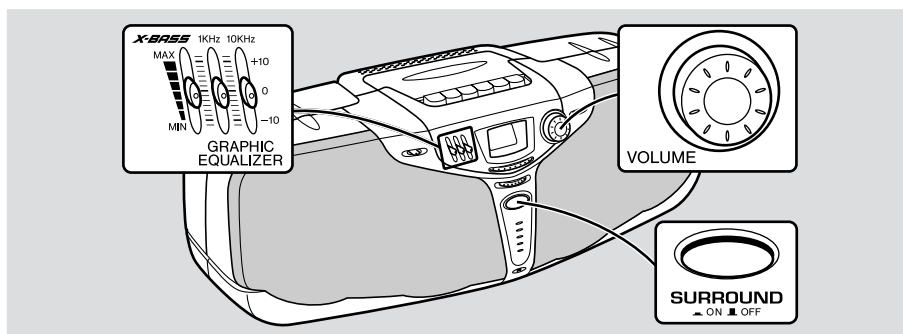
### Caution:

Do not use rechargeable batteries (nickel-cadmium battery, etc.).





## Sound Control



### Volume

Turn the VOLUME control to increase or decrease the volume.

### Extra bass (X-BASS)

Move the X-BASS control towards MAX to emphasise bass sound.

### Graphic equalizer

Move the GRAPHIC EQUALIZER control for any frequency towards + 10 to boost the level for that frequency, and towards – 10 to lower the level.

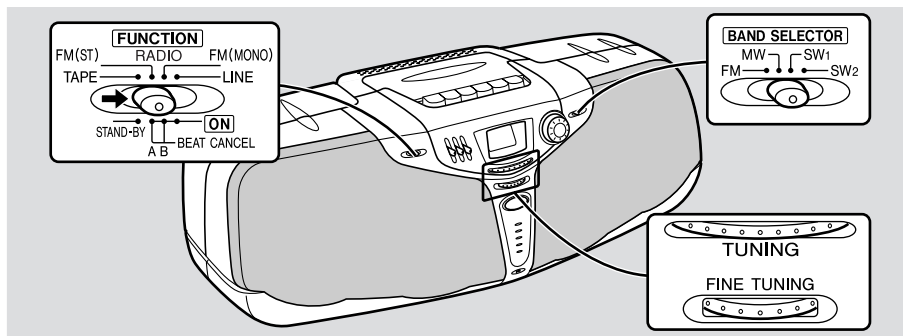
### Surround

Set the SURROUND button to ON.

“Surround” refers to an acoustical effect similar to the ambience of a concert hall, where the listener has the feeling of being “surrounded” by the sound.

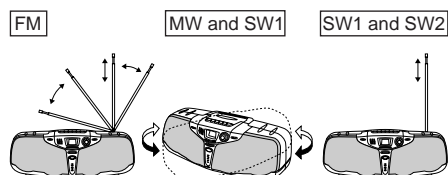
The surround effect cannot be obtained from monaural sound signals.

## Listening to the Radio



- 1 Set the **FUNCTION** switch to **RADIO**.
- 2 Set the **BAND SELECTOR** switch to **FM**, **MW**, **SW1** or **SW2**.
- 3 Turn the **TUNING** control to tune in to a desired station. The **FINE TUNING** control functions only for **SW1** and **SW2** bands.
- 4 Set the **FUNCTION** switch to **FM (ST)** to receive FM stereo transmission. If the reception is weak, set it to **FM (MONO)**. The sound becomes clearer.

### Aerial adjustment:



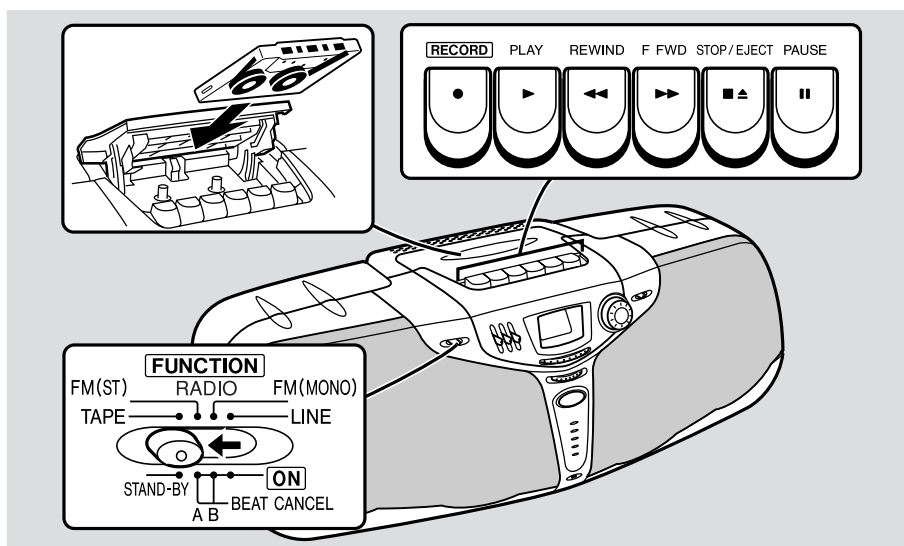
### After use:

Set the **FUNCTION** switch to **STAND-BY**.





## Listening to a Cassette Tape



- 1 Set the **FUNCTION** switch to **TAPE**.
- 2 Open the cassette compartment by pushing the **STOP/EJECT** ■▲ button.
- 3 Load a cassette into the cassette compartment with the side to be played facing up.
- 4 Press the **PLAY** ► button.
- 5 To advance the tape, press the **STOP/EJECT** ■▲ button, then press the **F FWD** ►► button. To rewind, press the **STOP/EJECT** ■▲ button, then press the **REWIND** ◀◀ button.

### To interrupt playback:

Press the **PAUSE** || button during playback. Press the **PAUSE** || button again to resume playback.

### To stop playback:

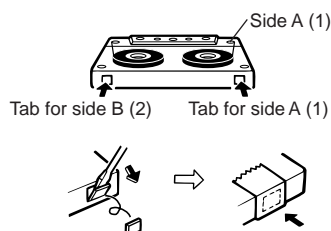
Press the **STOP/EJECT** ■▲ button.

### Precautions:

- Be sure not to press the **PLAY** ► and **REWIND** ◀◀ buttons simultaneously, or the tape will become damaged.
- Before changing from one tape operation to another, press the **STOP/EJECT** ■▲ button.
- Do not press the **PAUSE** || button whilst the fast forward or rewind operations are in progress. The **F FWD** ►► or **REWIND** ◀◀ button will not be released when the tape end is reached. Once this occurs, press the **STOP/EJECT** ■▲ button.

## ■ Cassette tape

- For playback, use normal or low-noise tapes for the best sound. (Metal or CrO<sub>2</sub> tapes are not recommended.) For recording, use only normal tapes.
- Do not use C-120 tapes, or poor-quality tapes, as they may cause malfunctions.
- Before loading a tape into the cassette compartment, tighten the slack with a pen or pencil.
- Cassettes have removable tabs that prevent accidental recording or erasing. Removing the tab will protect the corresponding side from being erased. Cover the tab holes with adhesive tape to erase or record again.

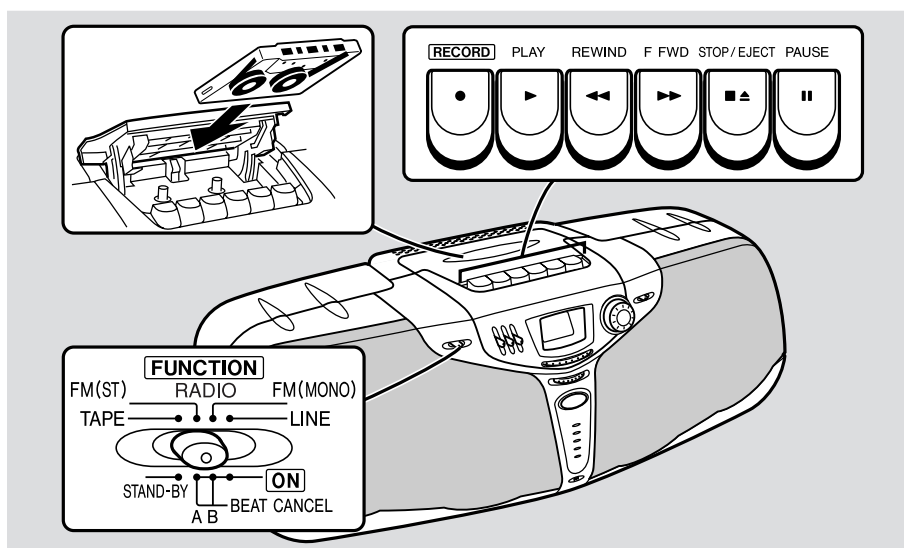




## Recording to a Cassette Tape

### Before recording:

- When recording important selections, make a preliminary test to ensure that the desired material is properly recorded.
- SHARP is not liable for damage or loss of your recording arising from malfunction of this unit.
- The ALC (Automatic Record Level Control) circuit automatically controls the level of the input signal used for recording.
- The VOLUME, X-BASS, GRAPHIC EQUALIZER and SURROUND controls may be adjusted with no effect on the recorded signal. (Variable Sound Monitor)
- Metal and CrO<sub>2</sub> tapes cannot be used for recording.



### ■ Recording from the radio

- 1 Set the FUNCTION switch to RADIO.
- 2 Set the BAND SELECTOR switch to FM, MW, SW1 or SW2.
- 3 Tune in to the station to be recorded.
- 4 Load a blank cassette into the cassette compartment with the side to be recorded on facing up.
- 5 Press the PAUSE button.
- 6 Press the RECORD button.
- 7 Press the PAUSE button again to begin recording.

#### To stop recording:

Press the STOP/EJECT button.

#### Beat cancel switch:

If a whistling noise occurs when recording from an MW, SW1 or SW2 station, set the BEAT CANCEL switch to A or B, whichever gives the best reception.

### ■ Recording from the built-in microphone

- 1 Set the FUNCTION switch to TAPE.
- 2 Load a cassette into the cassette compartment.
- 3 Press the PAUSE button.
- 4 Press the RECORD button.
- 5 Press the PAUSE button again to begin recording.

#### Notes:

- Monitoring of the recording is not possible.
- Recording from the built-in microphone is not in stereo.

### ■ Erasing a recorded tape

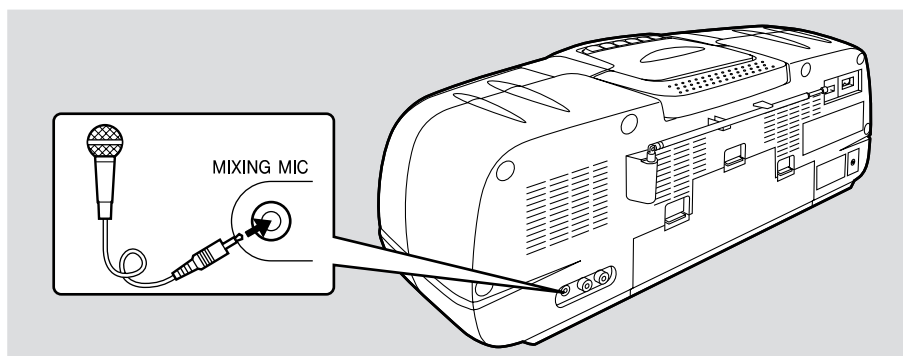
- 1 Set the FUNCTION switch to LINE.
- Do not connect anything to the LINE IN and MIXING MIC sockets.
- 2 Load a tape into the cassette compartment with the side to be erased facing up.
- 3 Press the RECORD button.

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## Mixing from a Microphone



### ■ Mixing from a microphone and other sources

You can listen to mixed sound from an external microphone and other sources.

- 1 To protect the speakers from shock noise and to avoid disturbing noises, set the VOLUME control to minimum.**
- 2 Connect the microphone to the MIXING MIC socket.**
- 3 Set the FUNCTION switch to the desired source (cassette, radio or external unit) and play it back.**
- 4 Adjust the volume of the audio source and the microphone using the VOLUME control.**

#### Notes:

- Be sure that the microphone has a 3.5 mm (1/8") diameter plug, and is of 600 ohms impedance. If not, use an appropriate adaptor.
- Use a monaural microphone only. Stereo microphones are unusable.
- Place the microphone about 10 - 15 cm (4-6") away from the source.
- If howling occurs, lower the volume or move the microphone as far as possible from the speakers.

#### Caution:

When not using the microphone, remove the microphone plug from the MIXING MIC socket.

### ■ Recording of mixed sound to a cassette tape

You can record mixed sound from an external microphone and other sources.

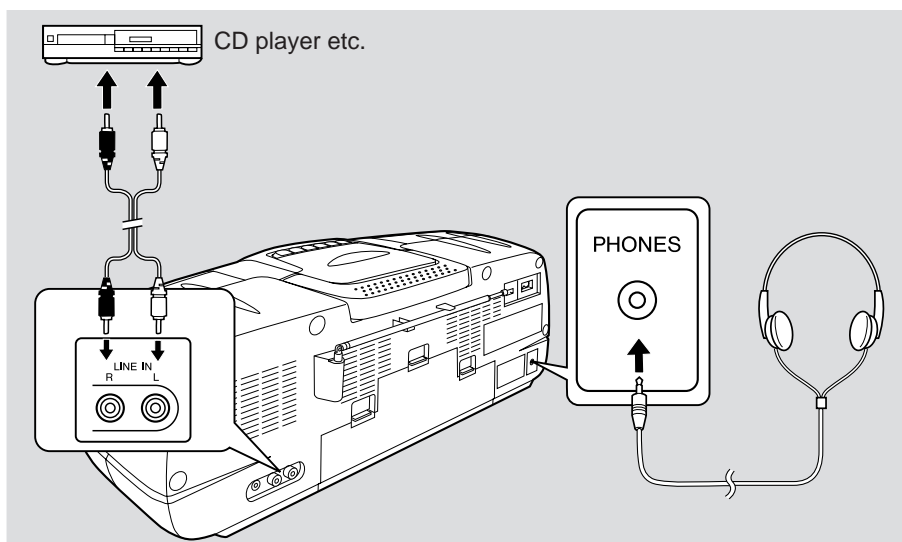
- 1 To protect the speakers from shock noise and to avoid disturbing noises, set the VOLUME control to minimum.**
- 2 Connect the microphone to the MIXING MIC socket.**
- 3 Load a cassette into the cassette compartment.**
- 4 Set the FUNCTION switch to RADIO or LINE.**
  - Mixing recording is not possible if the FUNCTION switch is set to TAPE.
- 5 Adjust the volume of the audio source and the microphone using the VOLUME control.**
- 6 Press the RECORD ● button to begin recording.**

#### Note:

To record the microphone signals only, load a cassette into the cassette compartment, set the FUNCTION switch to TAPE, and then press the RECORD ● button.



## Using External Units



### ■ Listening to the playback sounds from CD player etc.

Set the FUNCTION switch to TAPE before connecting or disconnecting any component.

**1** Use a connection cable to connect the CD player etc. to the LINE IN sockets. (red → right channel, white → left channel)

**2** Set the FUNCTION switch to LINE.

**3** Play the CD player etc.

#### Notes:

- To prevent noise and interference when using the tuner, turn off the power to your CD player.
- To prevent hum interference, do not place this unit near television receivers.

### ■ To record on a tape

**1** Load a cassette in the cassette compartment.

**2** Press the RECORD ● button.

**3** Play the CD player etc.

### ■ Headphones

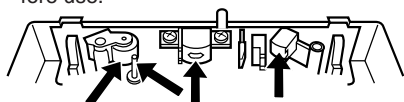
- Before plugging in or unplugging the headphones, make sure the volume level is reduced.
- Be sure your headphones have a 3.5 mm (1/8") diameter plug and are between 16 ohms and 50 ohms impedance. The recommended impedance is 32 ohms.
- When headphones are connected, the speakers are disconnected automatically. Adjust the VOLUME control for desired volume.



## Maintenance

### ■ Cleaning the tape-handling parts

- Dirty heads, capstan or pinch roller can cause poor sound and tape jams. Clean these parts with a cotton swab moistened with commercial head/pinch roller cleaner or isopropyl alcohol.
- After long use, the deck's heads and capstan may become magnetised, causing poor sound. Demagnetise these parts once every 30 hours of playing/recording by using a commercial tape head demagnetiser. Read the demagnetiser's instructions carefully before use.



Ⓐ Pinch roller Ⓑ Capstan  
Ⓒ Recording/Playback head Ⓓ Erase head

### ■ Cleaning the cabinet

Periodically wipe the cabinet with a soft cloth and a diluted soap solution, then wipe with a dry cloth.

#### Caution:

- Do not use chemicals for cleaning (petrol, paint thinner, etc.). It may damage the cabinet finish.
- Do not apply oil to the inside of the unit. It may cause malfunctions.

### ■ Condensation

Sudden temperature changes, storage or operation in an extremely humid environment may cause condensation inside the cabinet (tape heads, etc.).

Condensation can cause the unit to malfunction.

If this happens, leave the power on with no cassette in the unit until normal playback is possible (about 1 hour).

## Specifications

SHARP reserves the right to make design and specification changes for product improvement without prior notice.

### ■ General

Power source	AC 110-127/220-240 V, 50/60 Hz DC 15 V ["D" size (UM/SUM-1, R20 or HP-2) battery x 10]
Power consumption	40 W
Output power	MPO: 36 W (18 W + 18 W) (AC operation, 10 % T.H.D.) RMS: 20 W (10W + 10W) (DC operation, 10 % T.H.D.)
Speakers	8 cm (3-1/8") full range speaker x 4
Output terminal	Headphones: 16 - 50 ohms (recommended: 32 ohms)
Input terminals	Mixing microphone: 600 ohms Line input: 350 mV/47 kohms
Dimensions	Width: 520 mm (20-1/2") Height: 191 mm (7-1/2") Depth: 216 mm (8-1/2")
Weight	4.7 kg (10.4 lbs.) without batteries

### ■ Radio

Frequency range	FM: 88 - 108 MHz SW1: 2.3 - 7.3 MHz SW2: 7.3 - 22 MHz MW: 526.5 - 1,606.5 kHz
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### ■ Tape recorder

Frequency response	60 - 12,000 Hz (Normal tape)
Signal/noise ratio	40 dB
Wow and flutter	0.3 % (WRMS)
Motor	DC 12 V electric governor
Bias system	AC bias
Erase system	Magnet erase

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# SHARP

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